

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	54	norbornene adj3 isomer	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2004/11/23 14:58
L2	15	norbornene isomer	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 14:59
L3	31	isomer adj3 norbornene	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:06
L4	4858	endo and exo	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:06
L5	25	1 and 4	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:11
L6	416	526/242.ccls.	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:11
L7	0	5 and 6	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:11
L8	0	(1 or 2 or 3) and 6	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2004/11/23 15:12

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	54	norbornene adj3 isomer	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2004/11/23 14:58
L2	15	norbornene isomer	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 14:59
L3	31	isomer adj3 norbornene	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:06
L4	4858	endo and exo	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:06
L5	25	1 and 4	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:11
L6	416	526/242.ccls.	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:11
L7	0	5 and 6	USPAT; USOCR; EPO; JPO; DERWENT	NEAR	ON	2004/11/23 15:11
L8	0	(1 or 2 or 3) and 6	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2004/11/23 15:13
L10	66	exo near1 norbornene	USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2004/11/23 15:14

(FILE 'HOME' ENTERED AT 15:21:10 ON 23 NOV 2004)

FILE 'CAPLUS, USPATFULL, JAPIO, EUROPATFULL' ENTERED AT 15:21:30 ON 23 NOV 2004

L1	0 S	ENDO EXO CONCENTRATION RATIO
L2	0 S	ENDO EXO CONCENTRATION
L3	672 S	NORBORNENE (3A) EXO
L4	956 S	NORBORNENE (3A) ENDO
L5	132 S	(FLUORO OR FLUORINATED) (3A) NORBORNENE
L6	3 S	L3 AND L4 AND L5
L7	55 S	NORBORNENE (3A) ISOMERS
L8	0 S	L4 AND L7 AND L5
L9	0 S	EXO ENDO CONCENTRATION
L10	92 S	EXO ENDO RATIO
L11	255 S	ENDO EXO (3A) RATIO
L12	192 S	EXO ENDO (3A) RATIO
L13	0 S	L11 AND L5
L14	0 S	L12 AND L5
L15	34204 S	NORBORNENE
L16	60 S	L15 AND (L11 OR L12)
L17	258091 S	FLUORO OR FLUORINATED OR HEXAFLUOROISOPROPYL
L18	4 S	L16 AND L17

L18 ANSWER 4 OF 4 USPATFULL on STN
 AN 2003:141173 USPATFULL
 TI Norbornyl-substituted silanes and the use thereof
 IN Heldmann, Dieter, Muenchen, GERMANY, FEDERAL REPUBLIC OF
 Schaefer, Oliver, Muenchen, GERMANY, FEDERAL REPUBLIC OF
 Stohrer, Juergen, Pullach, GERMANY, FEDERAL REPUBLIC OF
 PA Consortium fur elektrochemische Industrie GmbH, Munich, GERMANY, FEDERAL
 REPUBLIC OF (non-U.S. corporation)
 PI US 2003097015 A1 20030522
 AI US 2002-255515 A1 20020926 (10)
 PRAI DE 2001-147625 20010927
 DT Utility
 FS APPLICATION
 LREP BROOKS & KUSHMAN, 1000 TOWN CENTER 22ND FL, SOUTHFIELD, MI, 48075
 CLMN Number of Claims: 12
 ECL Exemplary Claim: 1
 DRWN No Drawings
 LN.CNT 494
 CAS INDEXING IS AVAILABLE FOR THIS PATENT.
 AB Silanes of the formula

$R_{sup.1.sub.aR.sub.4-a-xSiL.sub.x}$ (I)

where each R is identical or different and is a monovalent, optionally substituted hydrocarbon radical which is free of aliphatic carbon-carbon multiple bonds and has from 1 to 18 carbon atoms per radical,

$R_{sup.1}$ is an optionally substituted 2-norbornyl radical,

L is a leaving group,

a is 1, 2 or 3 and

x is 1 or 2,

with the proviso that the sum of $a+x \leq 4$, are useful for protecting functional groups of organic compounds (2) which have at least one functional group having an active hydrogen atom, preferably as a hydroxyl group --OH, a thiol groups --SH, an amine group --NH- or --NH.sub.2, a carboxyl group --COOH, or an amide group --CONH-- or --CONH.sub.2.

SUMM [0007] The hydrosilylation of dimethylchlorosilane using **norbornene** under Pt catalysis leads preferably to exo-2-(dimethylchlorosilyl)bicyclo[2.2.1]heptane. See, e.g., V. J. Eddy et al., J. ORG. CHEM. 1987, 52(10), . . . et al., J. CHEM. Soc. Dalton Trans. 1977, 1519-1525. This compound may also be referred to as norbornyldimethylchlorosilane (NM2-silane). Since **norbornene** is a disubstituted alkene, secondary alkyl radicals on silicon are thus accessible. Owing to the angle strain of **norbornene**, the reaction proceeds with considerably greater ease in comparison to other internal alkenes such as cyclopentene. The hydrosilylation of substituted **norbornene** derivatives using dimethylchlorosilane is likewise known. G. K. -I. Magomedov et al., J. GEN. CHEM. USSR (Engl. Transl.) 1988, 58(1), . . .

SUMM [0009] Mononorbornyl-substituted dichlorosilanes are likewise known. For instance, the Pt catalyzed hydrosilylation of dichloromethylsilane using **norbornene** has been described which delivers the desired dichloronorbornylmethylsilane in 85 % yield. M. Green et al., J. CHEM. Soc. Dalton. . .

DETD [0017] Examples of substituted R radicals include haloalkyl radicals such as the 3,3,3-trifluoro-n-propyl radical, the 2,2,2,2',2',2'-hexafluoroisopropyl radical, the heptafluoroisopropyl radical, and haloaryl radicals such as the o-, m- and p- chlorophenyl radicals.

Any substituent which does. . .

DETD [0024] Di(2-norbornyl)methylchlorosilane 3 is prepared by hydrosilylating **norbornene** using methylchlorosilane (H.sub.3CSiH.sub.2Cl). Tri(2-norbornyl)chlorosilane 5 is prepared by hydrosilylating **norbornene** using chlorosilane (H.sub.3SiCl). Di(2-norbornyl)dichlorosilane 8 is prepared by hydrosilylating **norbornene** using dichlorosilane (H.sub.2SiCl.sub.2).

DETD [0041] **Norbornene** (141 g, 1.50 mol) is dissolved in toluene (100 ml) and heated to 80° C. After the addition of the. . . the temperature rises to 98° C. Heating is continued at 80° C for a further 1 h. Excess silane, unconverted **norbornene** and the solvent are distilled off at atmospheric pressure. The residue is fractionally distilled using a membrane pump vacuum. 255. . . (s, 3H), 0.25 (s, 3H); 0.6 (t, 1H); 0.9-1.1 (m, 4H), 1.2-1.4 (m, 4H), 2.1 (2 s, overlapping, 2H). The **exo/endo ratio** is 93:7 (GC). The analytical data reported always relate to the main isomer.

DETD . . . at - 78° C and dissolved in precooled xylene (200 ml). The temperature is -10° C after the addition. First **norbornene** (34.5 g, 0.37 mol) and then the catalyst [COD]PtCl.sub.2 (1 % solution in CH.sub.2Cl.sub.2, 2.50 ml) are added, whereupon. . . C. After 15 min, the temperature begins to fall again. According to GC (gas chromatography), about 50 % of the **norbornene** is consumed. The reaction mixture is heated to 80° C for 15 min, then held at 40° C for a further 1.5 h. The conversion of the **norbornene** according to GC is >90%. The reaction mixture is fractionally distilled. The main fraction at b.p. 118° C/1 mbar consists. . .

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S1: (9488) fluoro adj2 (resin or polymer or copolymer)
S2: (20974) norbornyl or norbornene
S3: (1572) hexafluoroisopropanol
S4: (1) S1 and S2 and S3
S5: (0) endo/exo adj concentration adj ratio
S6: (0) endo/exo adj concentration
S7: (30) endo/exo and norbornene
S8: (2) "6548219".pn.
S9: (221) endo near2 "10"
S10: (56) endo near2 "0"
S11: (0) endo near2 S5
S12: (985) endo near2 "5"
S13: (440) S2 and S12
S15: (6) (endo near2 "0") same (norbornyl or norbornene)
S14: (370) (endo near2 "5") same (norbornyl or norbornene)
S16: (66) exo near1 norbornene
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Search List Browse Clear
DBs: USPAT: USOCR: EPO: JPO: DERWENT
Default operator: OR
Plurals
Highlight all hit terms initially

exo near1 norbornene

Search Terms		Total	USPAT	US-PGPU	EPO	JPO	Derwt
1	EXO	12198					
2	EXOE	46					
3	EXOES	10					
4	EXOS	123					
5	NORBORNENE	17616					
6	NORBORNENES	1447					
7	(EXO NEAR1 NORBORNENE)	66	43		4	1	7

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